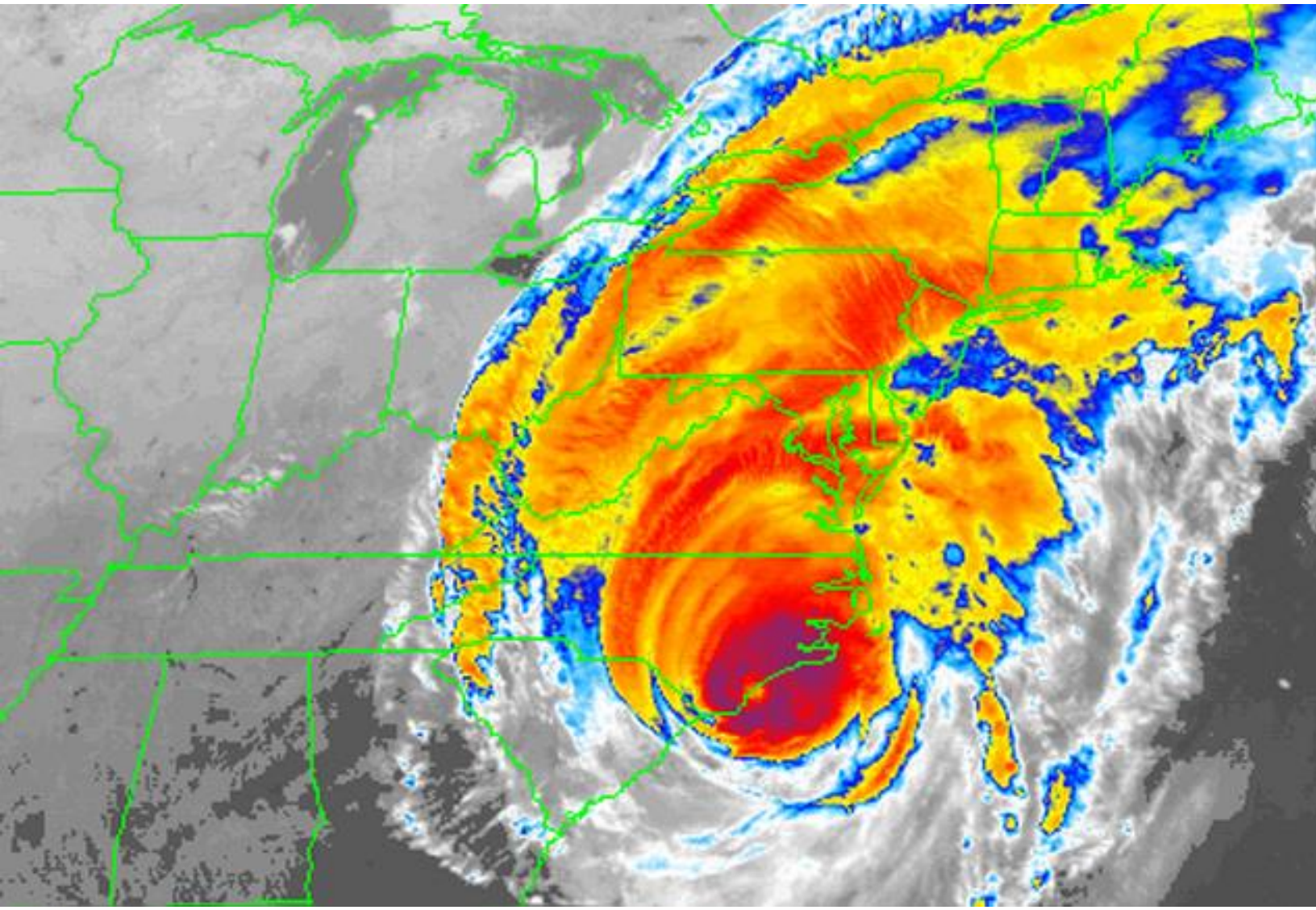


Hurricane Floyd

South Carolina Impact Report

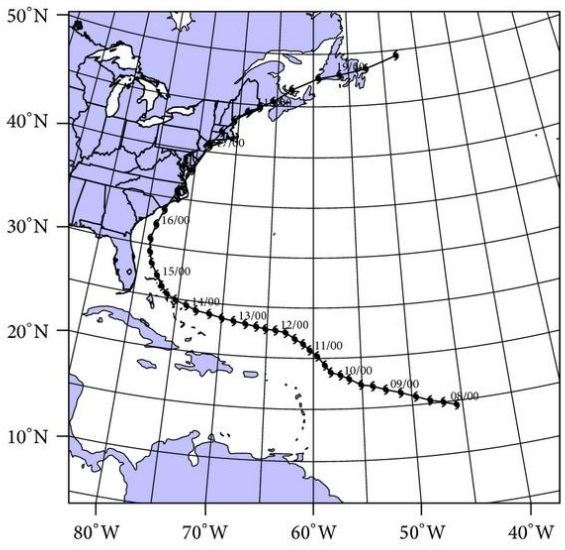
Hurricane Floyd

September 7,1999- September 19, 1999

DNR

Hurricane Floyd Event Summary

Hurricane Floyd was one of the deadliest United States hurricane since Hurricane Agnes in 1972. As a Category 4 hurricane, Floyd threatened the eastern coastline of the United States and subsequently resulted in the fourth largest evacuation in US history. As the fourth hurricane and third major hurricane to be named during the 1999 Atlantic hurricane season, Floyd ultimately resulted in 56 deaths and flood damages ranging between 4-6 billion dollars.

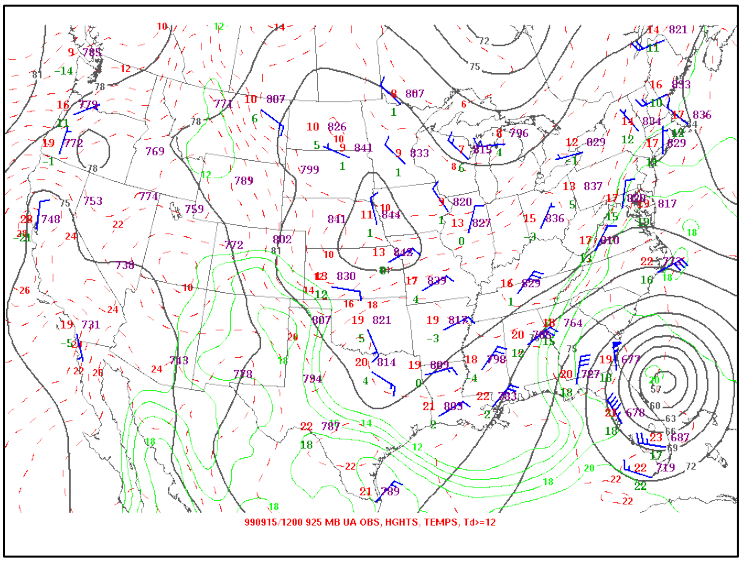


As reported from the National Hurricane Center, on September 2nd Floyd originated as a tropical wave that moved off the coast of Africa. By September 8th becoming a tropical storm and by September 11th, reaching hurricane strength winds of 110 mph, just north of the Leeward Islands. On September 16th, Floyd made landfall at Cape Fear, NC as a Category 2 hurricane with 105 mph winds. The center moved northeast about 60 miles off the coast of Georgetown, SC, where wind 50 to 60 mph gusts were recorded. Rainfall was heavy along coastal counties, a foot of rain fell in Georgetown County; 18 inches feel in eastern Horry County. The heavy rains caused flooding to many roads, and buildings. Waves were reported to be 15 feet at Cherry Grove Pier where damage was the greatest.

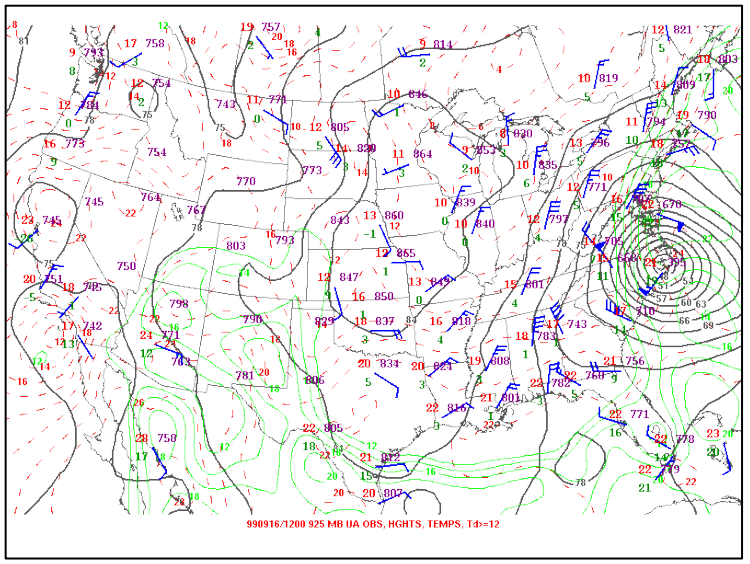
By September 17th, Floyd had crossed over North Carolina, briefly reentered the west Atlantic Ocean, before losing its tropical storm characteristic before moving into New England.

Hurricane Floyd Air Maps

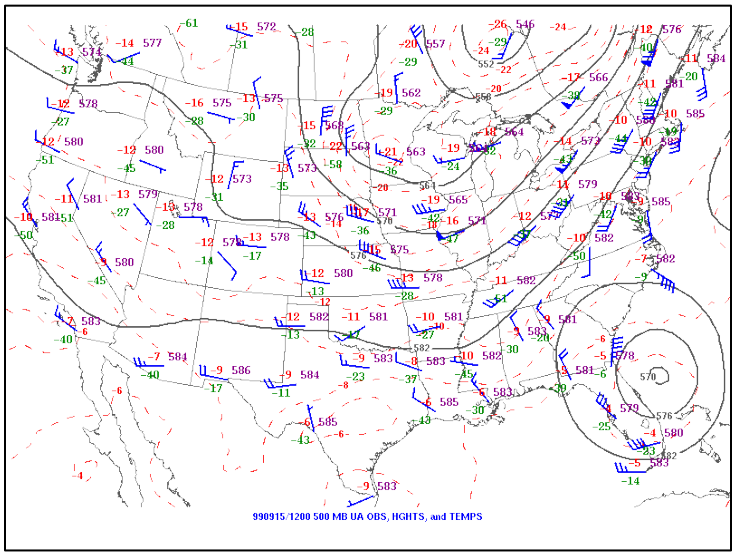
The following maps provided by NOAA's National Weather Service Storm Prediction Center display both 500 and 925 MB levels on September 15 and 16 1999.



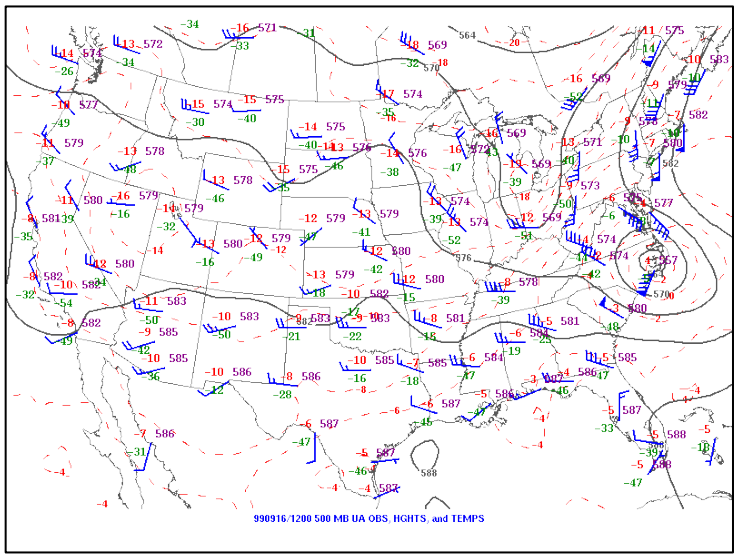
Storm Prediction Center Upper Air Maps
925 MB September 15, 1999



Storm Prediction Center Upper Air Maps
925 MB September 16, 1999



Storm Prediction Center Upper Air Maps
500 MB September 15, 1999

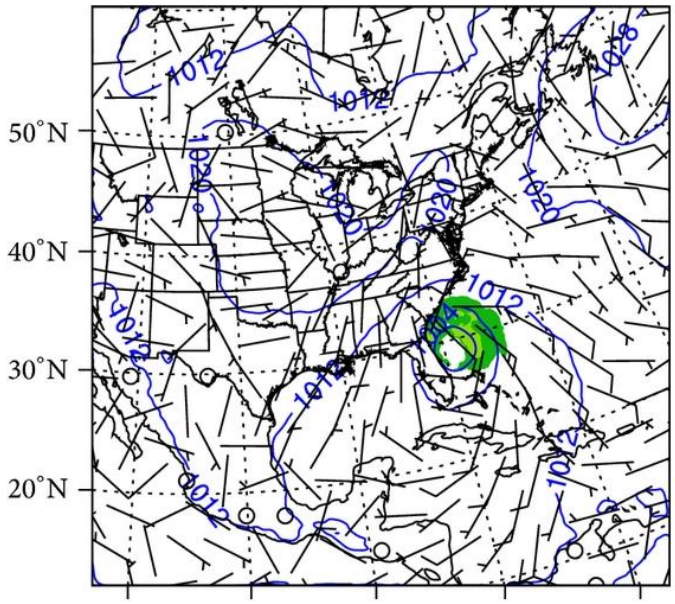


Storm Prediction Center Upper Air Maps
500 MB September 16, 1999

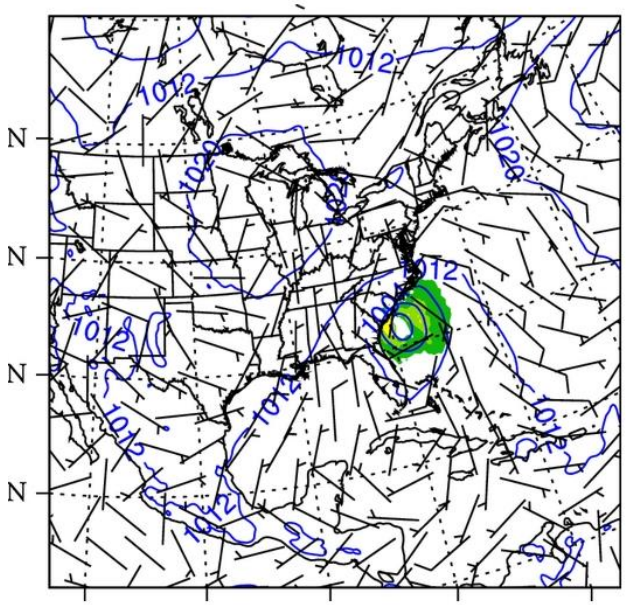
For More Surface and Upper Air Maps:
http://www.spc.noaa.gov/obswx/maps/

Sea Level Pressure and 10m Winds

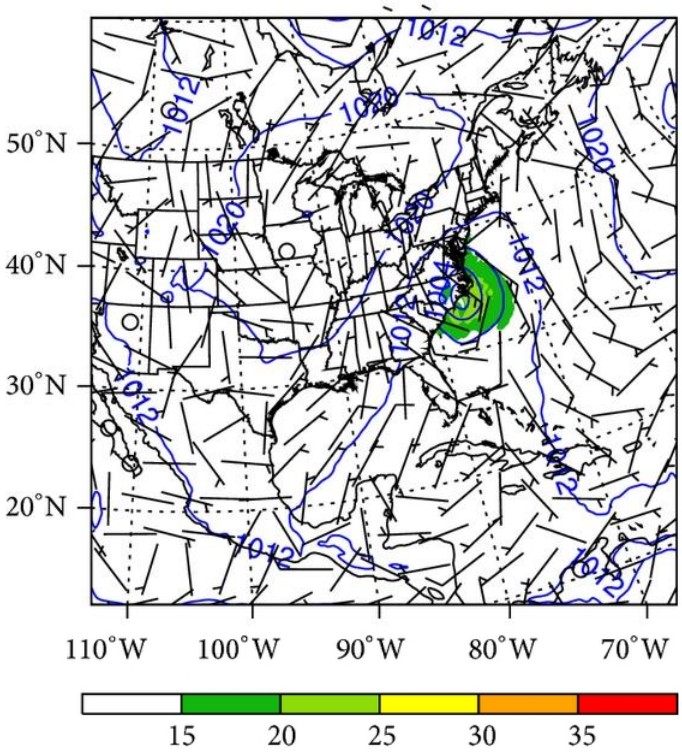
The following images display sea level pressure (contours every 8 hPa) and 10 m wind (shaded colors and wind bars with 1 full bar = 5 m s−1) from the CTRL



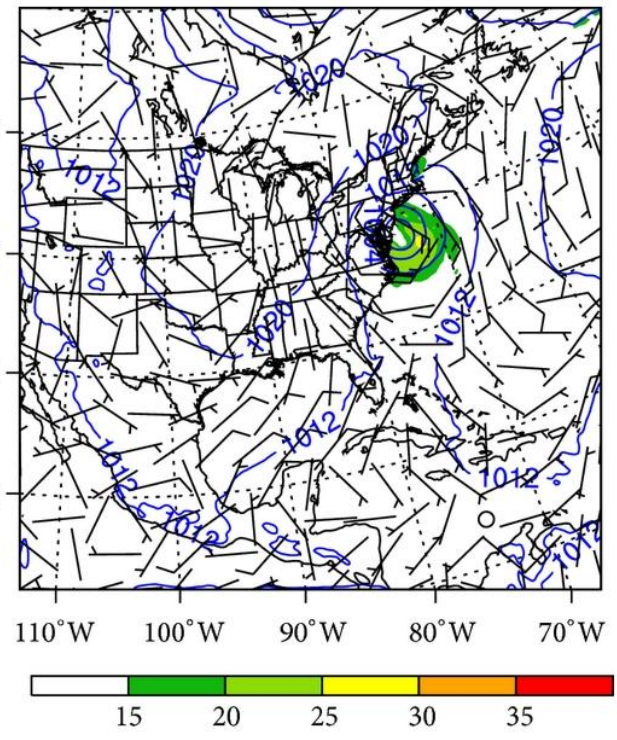
12Z September 15, 1999



00Z September 16, 1999



12Z September 16, 1999



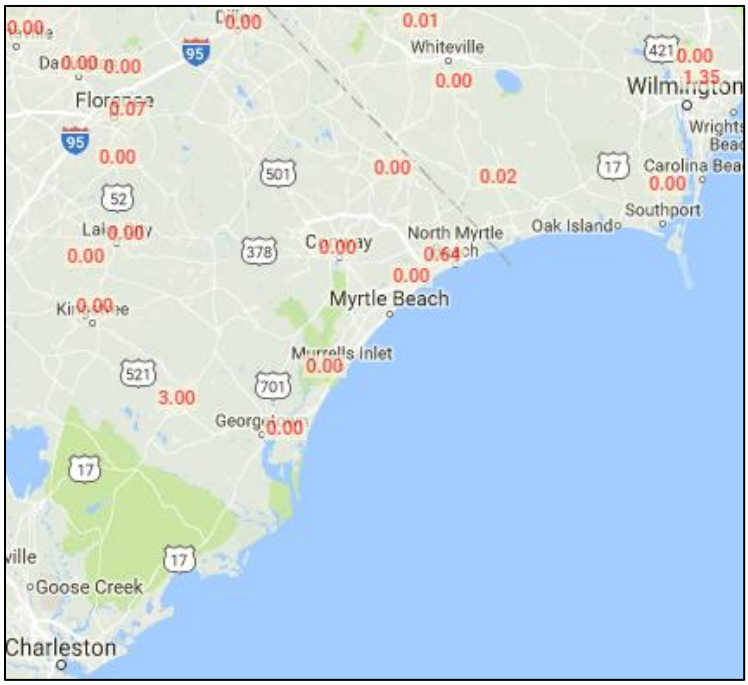
00Z September 17, 1999

Qianhong Tang, Lian Xie, Gary M. Lackmann, and Bin Liu, "Modeling the Impacts of the Large-Scale Atmospheric Environment on Inland Flooding during the Landfall of Hurricane Floyd (1999)," Advances in Meteorology, vol. 2013, Article ID 294956, 16 pages, 2013. doi:10.1155/2013/294956

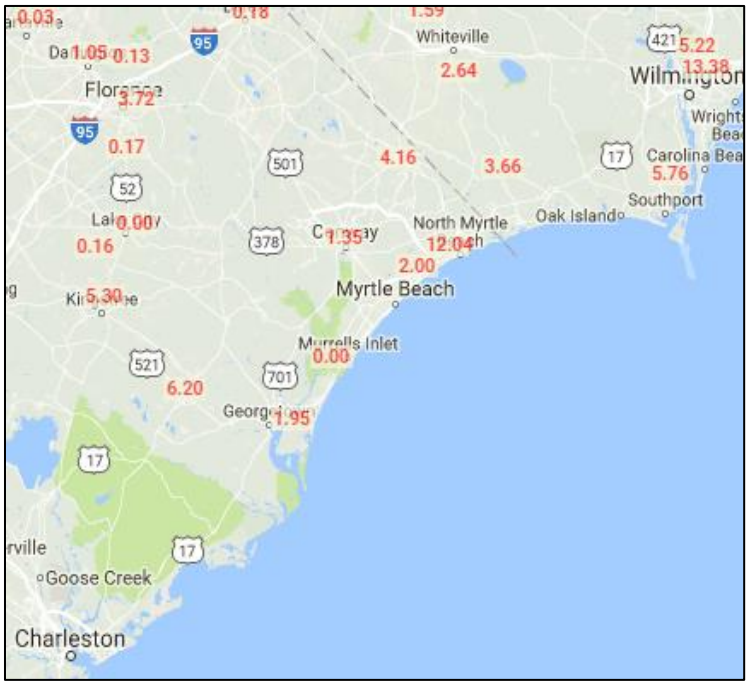
To View Full Report:
http://dx.doi.org/10.1155/2013/294956

Hurricane Floyd Precipitation

For South Carolina, the standing 24-hour precipitation record was set during Hurricane Floyd when **14.80 inches** of rain falling on Myrtle Beach on Sept. 16, 1999

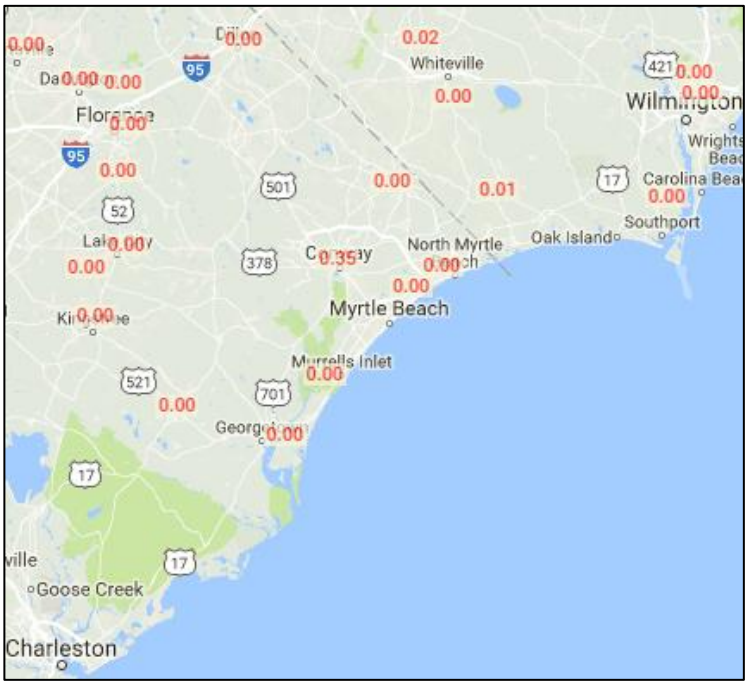


Daily Precipitation: September 14, 1999



Daily Precipitation: September 15, 1999

Daily Precipitation: September 16, 1999



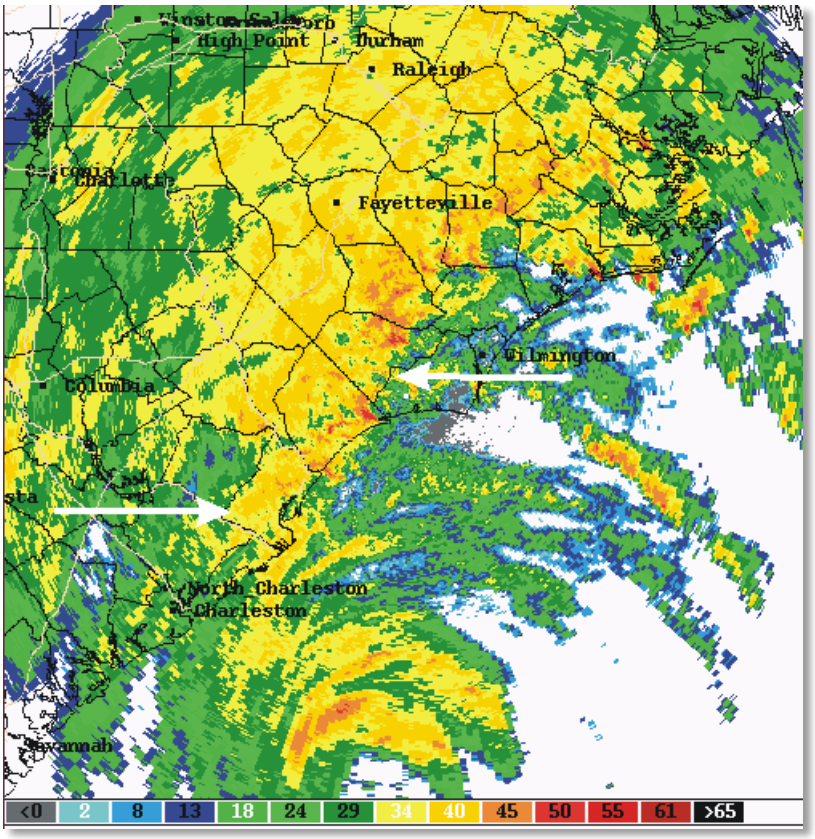
Daily Precipitation: September 17, 1999

xmACIS2

For More Surface Station Maps Visit:
http://xmacis.rcc-acis.org/

Hurricane Floyd Precipitation

Name	County	Longitude	Latitude	9/15/1999	9/16/1999	9/17/1999
MYRTLE BEACH	Horry	-78.82	33.754	2.00	14.80	0.00
BROOKGREEN GARDENS	Georgetown	-79.1	33.521	0.00	14.71	0.00
GEORGETOWN 2 E	Georgetown	-79.22	33.362	1.95	11.89	0.00
CONWAY	Horry	-79.06	33.831	1.35	11.35	0.35
LORIS 2 S	Horry	-78.88	34.035	4.16	10.02	0.00
DILLON	Dillon	-79.36	34.409	0.18	5.45	0.00
FLORENCE 8 NE	Darlington	-79.74	34.293	0.13	4.10	0.00
CADES 4 W	Williamsburg	-79.86	33.808	0.16	4.05	0.00
EFFINGHAM	Florence	-79.76	34.063	0.17	3.64	0.00
RIDGEVILLE	Dorchester	-80.3	33.103	0.42	3.58	0.00
LAKE CITY	Florence	-79.73	33.864	0.00	3.40	0.00
N MYRTLE BCH AP	Horry	-78.72	33.812	12.04	3.38	0.00



0.5 ° reflectivity from KLTX at 2231 UTC 15 September 1999. White arrows denote frontal precipitation band.

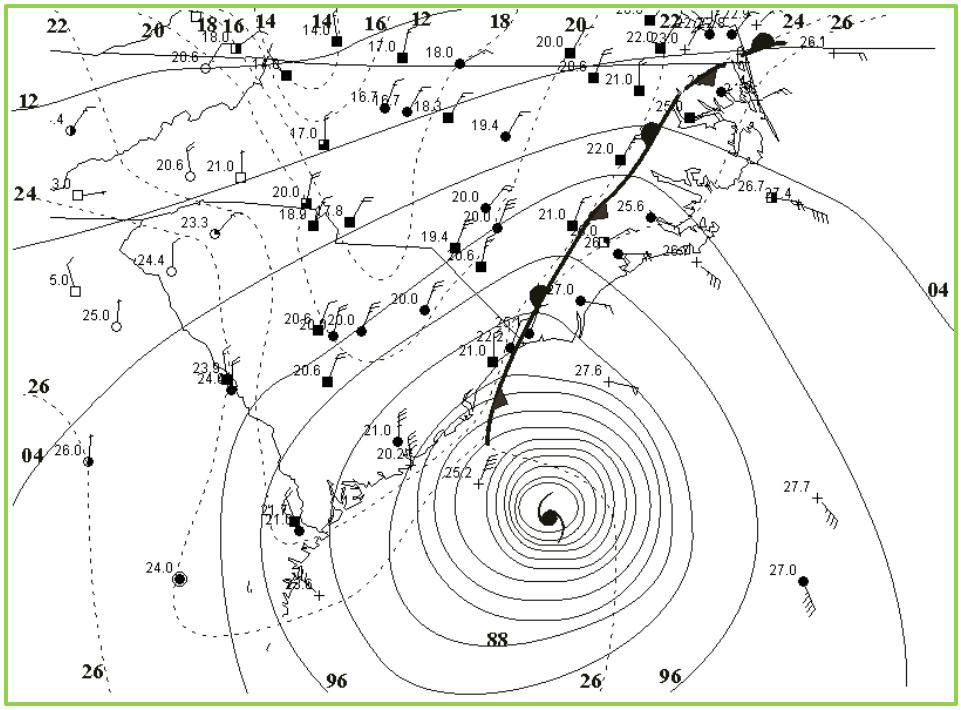
Check out the full report provided by Department of Meteorology, Pennsylvania State University, University Park, PA at http://stormeyes.org/pietrycha/vortex/floyd/floydtornadoes.html

Floyd Selected Surface Observations

Hurricane Floyd, selected surface observations, September 1999

Location	Press. (mb)	Date/ time (UTC)	Sustained wind (kt)a	Peak gust (kt)	Date /time (UTC)b	Storm surge (ft)c	Storm tide (ft)d	total rain (in)
Charleston Int'l Airport	989.5	15/0052	44	58	16/0046			3.91
Florence Airport	991.2	16/0655	36	54	16/0158			4.04
Grand Strand	977	16/0553		57	16/0523			
Myrtle Beach Airport	979.7	16/0553		62	16/0455			16.06
Folly Beach			47	62	15/2300			

Source: http://www.nhc.noaa.gov/data/tcr/AL081999_Floyd.pdf



The image to the above is a surface map for 0000 UTC 16 September 1999, with subjectively analyzed mean sea level isobars (solid) every 4 mb (labeled every other isobar to 988 mb), and isotherms (dashed) every 2°C (labeled every isotherm). Standard station model in abbreviated format; temperature in tenths °C and sky conditions reported. Winds in knots with one pennant, one full barb, and one half barb equal to 50, 10, and 5 knots, respectively.

To View Full Report:

http://stormeyes.org/pietrycha/vortex/floyd/floydtornadoes.html

Hurricane Floyd Images

September 16, 1999 -- Neighbors and onlookers alike help move household contents to higher ground, as flooding began near Myrtle Beach. (Dave Saville/ FEMA)

Paula Bruner documents the sand that was piled, up to 4 feet in places, in front of her vacation/rental home along Carolina Beach Avenue North at Carolina Beach. Hurricane Floyd caused severe tidal surge that brought sand with it onto the homes and streets on the North end of the island. Front end loaders slowly remove sand in the background in this photo from December 17, 1999. Photograph courtesy of Wilmington Star-News.

North Carolina September 20, 1999: President Clinton talks with North Carolina residents about Hurricane Floyd and the resulting flooding during his trip to the State. White House Photo